

SEQUENCE LISTING



<110> Chakravarti, Shukti
Case Western Reserve University

<120> Gene Expression Profiling of
Inflammatory Bowel Disease

<130> 021825-004720US

<140> US 10/084,892

<141> 2002-02-27

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<223> monocyte-derived neutrophil chemotactic factor
(MDNCF); interleukin 8 (IL-8) precursor; small
inducible cytokine, subfamily B, member 8 (SCYB8);
chemokine (C-X-C motif) ligand 8 (CXCL8)

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 motif) ligand 1 (CXCL1)

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 MIP-2alpha); GRO2 oncogene (GRO2, GROb); melanoma
 growth stimulatory activity beta (MGSA-b); SCYB2;
 chemokine (C-X-C motif) ligand 2 (CXCL2)

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<223> monocyte-derived neutrophil chemotactic factor
(MDNCF); interleukin 8 (IL-8) precursor; small
inducible cytokine, subfamily B, member 8 (SCYB8);
chemokine (C-X-C motif) ligand 8 (CXCL8)

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precursor; small inducible cytokine A4 (SCYA4);
chemokine (C-C motif) ligand 4 (CCL4); activation
protein ACT-2 precursor; secreted protein G-26

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precursor; GRO3 oncogene (GRO3, GRO-gamma, GROG);
SCYB3; chemokine (C-X-C motif) ligand 3 (CXCL3);
melanoma growth stimulatory activity gamma

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<210> 8
<211> 328
<212> DNA
<213> Homo sapiens

```

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<220>
<223> macrophage inflammatory protein 1-beta (MIP-1beta)
precursor; small inducible cytokine A4 (SCYA4);
chemokine (C-C motif) ligand 4 (CCL4); activation
protein ACT-2 precursor; secreted protein G-26

```

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<213> Homo sapiens

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<223> prointerleukin 1 beta (pro-IL-1beta);
interleukin-1 beta precursor; catabolin

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<223> n = g, a, c or t

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<210> 10

<211> 1684

<212> DNA

<213> Homo sapiens

<220>

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 <212> DNA
 <213> Homo sapiens

<220>
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 factor 2 (BSF-2); hybridoma growth factor; CTL
 differentiation factor (CDF); interferon beta 2
 (IFNB2)

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 <212> DNA
 <213> Homo sapiens

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 <223> growth hormone variant 1 (GH1) and growth hormone
 variant 2 (GH2); hGH-V, hGH-V2

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<211> 2376

<212> DNA

<213> Homo sapiens

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<223> hepatoma-derived growth factor (HDGF);
high-mobility group protein 1-like 2 (HMG-1L2)

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<211> 2111

<212> DNA

<213> Homo sapiens

<220>

<223> tumor necrosis factor (TNF) receptor superfamily, member 1A
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(TNFR1, TNF-R55, p55-R); CD120a; TNFAR; TNFR60

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<210> 15

<211> 534

<212> DNA

<213> Homo sapiens

<220>

<223> neutrophil lipocalin (HNL); lipocalin 2 (LCN2);
human neutrophil gelatinase-associated lipocalin
(Hngal, NGAL); oncogene 24p3; 25 kDa
alpha-2-microglobulin-related subunit of MMP-9

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<210> 16
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<212> DNA
<213> Homo sapiens

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<223> neutrophil lipocalin (HNL); lipocalin 2 (LCN2);
      human neutrophil gelatinase-associated lipocalin
      (Hngal, NGAL); oncogene 24p3; 25 kDa
      alpha-2-microglobulin-related subunit of MMP-9

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 <213> Homo sapiens

<220>

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 PLA2); phosphatidylcholine 2-acylhydrolase;
 non-pancreatic secretory phospholipase A2 (NPS-PLA2)

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 inducible protein 4 (TP53I4, FIG4)

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<210> 22

<211> 748

<212> DNA

<213> Homo sapiens

<220>

<223> lysozyme (LYZ, LZM) precursor

<400> 22

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<210> 23

<211> 1971

<212> DNA

<213> Homo sapiens

<220>

<223> cytochrome P-450, family 3, subfamily A, polypeptide 7
(CYP3A7); cytochrome P-450 HFLa; aryl hydrocarbon hydroxylase;
microsomal monooxygenase; flavoprotein-linked monooxygenase;
xenobiotic monooxygenase

<400> 23

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<210> 24

<211> 1653

<212> DNA

<213> Homo sapiens

<220>

<223> antioxidant protein 2 (AOP2); peroxiredoxin 6
(PRDX6); 1-Cys periredoxin (1-Cys PRX);
non-selenium glutathione peroxidase (NSGPx);
KIAA0106

<400> 24

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<210> 25

<211> 367

<212> DNA

<213> Homo sapiens

<220>
 <223> metallothionein

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 <212> DNA
 <213> Homo sapiens

<220>
 <223> metallothionein-IG (MT1G)

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 cg 1922

<210> 27
 <211> 285
 <212> DNA
 <213> Homo sapiens

<220>

<223> nitric oxide synthase 2 (inducible, hepatocyte) (NOS2, NOS2A)

<400> 27

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<210> 28

<211> 3411

<212> DNA

<213> Homo sapiens

<220>

<223> regenerating islet-derived 1 beta (REG1B) precursor;
regenerating protein I beta; lithostathine 1 beta
precursor; secretory pancreatic stone protein 2;
pancreatic thread protein (PTP)

<400> 28

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<210> 29

<211> 4251

<212> DNA

<213> Homo sapiens

<220>

<223> regenerating islet-derived 1 alpha (REG1A) precursor;
regenerating protein I alpha; lithostathine 1 alpha
precursor; secretory pancreatic stone protein (PSP, PSPS);
pancreatic thread protein (PTP)

<400> 29

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<212> DNA

<213> Homo sapiens

<220>

<223> pancreatitis-associated protein 1 (PAP, PAP1) precursor;
regenerating islet-derived protein 3 alpha (REG3A,
Reg III-alpha) precursor; hepatocarcinoma-intestine-pancreas
(HIP); proliferation-inducing protein 34 (PIG34)

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 <212> DNA
 <213> Homo sapiens

<220>
 <223> zinc finger protein 436 (ZNF436), DNA-binding protein; KIAA1710

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 <213> Homo sapiens

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 <223> immunoglobulin G gamma 3 (IgG gamma 3,IGHG3)

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 <211> 565
 <212> DNA
 <213> Homo sapiens

<220>
 <223> S100 calcium-binding protein A9 (S100A9);
 calgranulin B (CAGB); migration inhibitory
 factor-related protein 14 (MRP-14)

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 <212> DNA
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<220>
 <223> lymphocyte G0/G1 switch regulatory protein 2
 (GOS2)

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<210> 36

<211> 439

<212> DNA

<213> Homo sapiens

<220>

<223> S100 calcium-binding protein P (S100P);
migration-inducing gene 9

<400> 36

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439

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<210> 37

<211> 565

<212> DNA

<213> Homo sapiens

<220>

<223> annexin V, annexin 5, annexin A5 (ANX5, ANXA5); lipocortin V;
endonexin II; anchorin CII; placental anticoagulant protein I
(PAP-I); vascular anticoagulant-alpha (VAC-alpha);
calphobindin; anticoagulant protein 4

<400> 37

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<210> 38

<211> 3678

<212> DNA

<213> Homo sapiens

<220>

<223> hypoxia-inducible factor 1 alpha (HIF1A, HIF-1
alpha); basic-helix-loop-helix-PAS protein MOP1;
ARNT interacting protein

<400> 38

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<210> 39

<211> 1910

<212> DNA

<213> Homo sapiens

<220>

<223> nuclear factor of interleukin 6 (NF-IL6);
interleukin 6-dependent DNA-binding protein;
transcription factor 5

<220>

<221> modified_base

<222> (1)..(1910)

<223> n = g, a, c or t

<400> 39

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<210> 40

<211> 774

<212> DNA

<213> Homo sapiens

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 precursor; MIF2 suppressor; small
 ubiquitin-related modifier 2 (SUMO2); sentrin 2

<220>
 <221> modified_base
 <222> (1)..(774)
 <223> n = g, a, c or t

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<210> 41
 <211> 2841
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 <213> Homo sapiens

<220>
 <223> SWI/SNF related, matrix-associated, actin dependent regulator
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 60 kDa subunit A; chromatin remodeling complex BRG-1/Brm
 associated factor 60A (BAF60A); Swp73-like protein

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<211> 2444

<212> DNA

<213> Homo sapiens

<220>

<223> NF-kappa-B transcription factor p65 subunit
(NFKB3); p65delta2; RELA

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<210> 43

<211> 1301

<212> DNA

<213> Homo sapiens

<220>

<223> basic transcription element binding protein 2;
transcription factor BTEB2; krueppel-like factor 5
(intestinal) (KLF5, IKLF); similar to colon
Krueppel-like factor (CKLF); GC-box binding protein

<400> 43

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<210> 44

<211> 2346

<212> DNA

<213> Homo sapiens

<220>

<223> guanine nucleotide-binding protein alpha subunit
(GNAS1, Gs alpha); secretogranin VI

<400> 44

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<210> 45

<211> 41936

<212> DNA

<213> Homo sapiens

<220>

<223> liver-specific bHLH-Zip transcription factor;
B6CBA LISCH7 homolog; lipolysis-stimulated
lipoprotein receptor; chromosome 19-cosmid R30879

<400> 45

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<210> 46

<211> 1342

<212> DNA

<213> Homo sapiens

<220>

<223> insulin-like growth factor binding protein 2
(IGFBP-2, IBP-2) precursor

<400> 46

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<210> 47

<211> 3839

<212> DNA

<213> Homo sapiens

<220>

<223> zinc finger protein 91 (ZNF91); Krueppel related
zinc finger protein; HTF10; HPF7

<400> 47

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<210> 48

<211> 1381

<212> DNA

<213> Homo sapiens

<220>

<223> general transcription factor IIIA (GTF3A)

<400> 48

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<210> 49

<211> 952

<212> DNA

<213> Homo sapiens

<220>

<223> sorcin CP-22 (SRI); calcium binding protein
amplified in multidrug-resistant cells

<400> 49

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<210> 50

<211> 1360

<212> DNA

<213> Homo sapiens

<220>

<223> creatine kinase, brain; creatine kinase-B (CKB, B-CK, CKBB)

<400> 50

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<210> 51

<211> 1910

<212> DNA

<213> Homo sapiens

<220>

<223> CCAAT/enhancer binding protein (C/EBP beta, CEBPB);
nuclear factor NF-IL6 (IL6DBP); TCF5; CRP2; LAP

<220>

<221> modified_base

<222> (1)..(1910)

<223> n = g, a, c or t

<400> 51

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<210> 52
 <211> 2855
 <212> DNA
 <213> Homo sapiens

<220>
 <223> cut-like 1 (CUTL1); CCAAT displacement protein (Drosophila)
 (CDP); CASP

<400> 52						
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<210> 53

<211> 607

<212> DNA

<213> Homo sapiens

<220>

<223> DNA-directed RNA polymerase II polypeptide J, transcript
variant a (POLR2J, RPO2); hRPB14; RPB11, hsRPB11

<400> 53

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cacactggga	aacatcatta	aatcacaact	cctaaaagac	ccgcaagtgc	tatttgctgg	240
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<210> 54

<211> 1578

<212> DNA

<213> Homo sapiens

<220>

<223> TATA box binding protein (TBP)-associated factor;
transcription factor SL1; RNA polymerase I, A 48kD (TAF1A,
TAFI48, RAFI48)


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1578

```

```

<210> 55
<211> 927
<212> DNA
<213> Homo sapiens

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```

<220>
<223> epithelial protein up-regulated in carcinoma
      (DD96); membrane associated protein 17 (MAP17);
      PDZK1 interacting protein 1 (PDZK1IP1)

```

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927

```

```

<210> 56
<211> 595
<212> DNA
<213> Homo sapiens

```

<220>

<223> calgizzarin; S100 calcium binding protein A11
(S100A11); protein S100C; MLN 70

<400> 56

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<210> 57

<211> 1433

<212> DNA

<213> Homo sapiens

<220>

<223> down-regulated in rhabdomyosarcoma LIM protein
(DRAL); four and a half LIM domains protein 2
(FHL-2); skeletal muscle LIM-protein 3 (SLIM 3);
aging associated gene 11 (AAG11)

<400> 57

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<210> 58

<211> 2416

<212> DNA

<213> Homo sapiens

<220>

<223> MAX interacting protein 1 (MXI1); MAX interactor 1
tumor suppressor; Max-related transcription
factor; MAX dimerization protein 2

<400> 58

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<210> 59

<211> 2881

<212> DNA

<213> Homo sapiens

<220>

<223> colon mucosa-associated down-regulated in adenoma
(DRA); solute carrier family 26, member 3
(SLC26A3); chloride anion exchanger; congenital
chloride diarrhea

<400> 59

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```

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2881

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<210> 60
<211> 1429
<212> DNA
<213> Homo sapiens

```

```

<220>
<223> selenium-binding protein 1 (hSBP, SELENBP1); SP56, HSP56;
LPSB

```

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<210> 61

<211> 1104

<212> DNA

<213> Homo sapiens

<220>

<223> MHC class II HLA-DP light chain

<400> 61

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cctttaaaaa	tatgcatcaa	aaaa				1104

<210> 62

<211> 282

<212> DNA

<213> Homo sapiens

<220>

<223> MHC class II HLA-DR beta 1 chain precursor
(HLA-DRB4)

```

<400> 62
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gccaggaaga gaagactggg gtgggtgtcca caggcctgat ccacaatgga gactggacct 180
tccagaccct ggtgatgctg gaaacagttc ctcggagtgg agaggtttac acctgccaa 240
tggagcaccc aagcgtgaca agccctctca cagtggaatg ga 282

```

```

<210> 63
<211> 213
<212> DNA
<213> Homo sapiens

```

```

<220>
<223> MHC HLA class II DG; HLA-DR gamma chain; CD74
antigen

```

```

<400> 63
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```

```

<210> 64
<211> 1191
<212> DNA
<213> Homo sapiens

```

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<220>
<223> MHC HLA class II DR beta-1 chain (HLA-DRB1)

```

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```

```

<210> 65
<211> 5724
<212> DNA
<213> Homo sapiens

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<220>
<223> MHC HLA class II DR alpha heavy chain (HLA-DRA)

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<400> 65

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<210> 66

<211> 1100

<212> DNA

<213> Homo sapiens

<220>

<223> MHC HLA class II DM alpha chain-like (HLA-DMA);
RING6

<400> 66

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gctgactggg	ctcaggaaca	gggagatgct	cctgccattt	tatttgacaa	agagttctgc	360
gagtggatga	tccagcaaat	agggccaaaa	cttgatggga	aaatcccggg	gtccagaggg	420
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cacgaaattg	accgctacac	agcaattgcc	tattgggtac	cccggaaacg	actgcctcca	720
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aaaaaaaaaa	aaaaaaaaaa					1100

<210> 67
 <211> 1763
 <212> DNA
 <213> Homo sapiens

<220>
 <223> MHC HLA class II DR2-Dw12 DQw1-beta chain
 (HLA-DRB2, HLA-Dw12)

<400> 67						
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gagggcagag	accctcccga	ggatttcgtg	ctccagttta	aggccatgtg	ctacttcacc	360
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<210> 68
 <211> 1216
 <212> DNA
 <213> Homo sapiens

<220>
 <223> MHC HLA class II DQw1.1 beta chain (HLA-DQB1)
 precursor

<400> 68						
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cgggtagcaa	ctgtcacctt	gatgctggcg	atcctgagct	cctcactggc	tgagggcaga	180
gactctcccg	aggatttcgt	gtaccagttt	aagggcctgt	gctacttcac	caacgggacg	240

gagcgcgtgc	ggggtgtgac	cagacacatc	tataaccgag	aggagtacgt	gcgcttcgac	300
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aacatgatcc	tgagtt					1216

<210> 69

<211> 915

<212> DNA

<213> Homo sapiens

<220>

<223> rearranged immunoglobulin lambda light chain (Ig lambda)

<400> 69

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<210> 70

<211> 527

<212> DNA

<213> Homo sapiens

<220>

<223> immunoglobulin heavy chain (IgH), VDJRC region

<400> 70

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ttgaaggggc	gattcaccat	ctccagagac	aattccaaga	acacgctgta	tctgcaaatg	300
aacagcctga	gatctgagga	cacggctgtg	tattactgtg	cgagaggggc	ggggattact	360
gattttttgga	gtggttatta	cgtcaactgg	ttcgaccctt	ggggccaggg	aaccctgggtc	420

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accgtctcct cagcttccac caagggccca tcggtcttcc ccctggcgcc ctgctccagg 480
agcacctctg ggggcacagc ggccctgggc tgccctgtca aggacta 527
```

```
<210> 71
<211> 382
<212> DNA
<213> Homo sapiens
```

```
<220>
<223> immunoglobulin lambda-like protein (IGLL2)
```

```
<400> 71
ggtcagccca agactacccc gtcggtcatt ctgttcctgc cgtcctgtga ggagccccaa 60
gccaacaagg ccacactggg gtgtctcatg aataacttta tccgggaatc ttgatgggtga 120
cctggaaggc agatgggtacc ctcacacccc agagcgtgga gaagaccacg ccctccaaac 180
agagcaacaa caagtacgtg gccagcagct acctgagcct gacgcccagc cagtggaggt 240
cccgcagaag ctacagctgc cagggttatgc aagaagggag caccgtggag aagtcagtgg 300
cccctgcaga atgttcatag gttccagccc ccacccacc acaggggcct ggagctgcag 360
gatcccaggg gaggggtctc tc 382
```

```
<210> 72
<211> 1244
<212> DNA
<213> Homo sapiens
```

```
<220>
<223> immunoglobulin rearranged gamma chain, V-J-C
region
```

```
<400> 72
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gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 120
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```

```
<210> 73
<211> 454
<212> DNA
<213> Homo sapiens
```

```
<220>
<223> immunoglobulin rearranged kappa light chain,
variable region
```

```

<400> 73
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cccagttctcc atcctccctg tctgcatctg taggagacag agtcaccatc acttgccagg 120
cgactcagga cattggcaac tatttaaatt ggtatcagca caaaccaggg aaagccccta 180
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gtggatctgg gacacatttt actttcacca tcagcagcct gcagcctgaa gatattgcaa 300
catattactg tcaacagtat ggtaatctcc cattcacttt cggccctggg accaaagtgc 360
atatcaaacg aactgtggct gcaccatctg tcttcatctt ccgccatctg atgagcagtt 420
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454

```

```

<210> 74
<211> 676
<212> DNA
<213> Homo sapiens

```

```

<220>
<223> MHC HLA class II Ia-associated invariant gamma
chain; CD74 antigen

```

```

<400> 74
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676

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```

<210> 75
<211> 468
<212> DNA
<213> Homo sapiens

```

```

<220>
<223> omega light chain protein 14.1, immunoglobulin
lambda chain-like

```

```

<400> 75
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ggaatcttga cggtgacctg gaaggcagat ggtaccccca tccccaggg cgtggagatg 180
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468

```

```

<210> 76
<211> 2919
<212> DNA
<213> Homo sapiens

```

<220>

<223> polymeric immunoglobulin receptor (poly-Ig
receptor, PIGR) precursor; hepatocellular
carcinoma-associated protein TB6; transmembrane
secretory component (SC)

<400> 76

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<212> DNA

<213> Homo sapiens

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 <212> DNA
 <213> Homo sapiens

<220>
 <223> T-cell specific protein; T-cell receptor
 beta-chain

<400> 78
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 <213> Homo sapiens

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 <211> 2709
 <212> DNA
 <213> Homo sapiens

<220>
 <223> interferon-gamma induced protein 16 (IFI16);
 interferon-inducible myeloid differentiation
 transcriptional activator

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<211> 483

<212> DNA

<213> Homo sapiens

<220>

<223> hepatitis C-associated microtubular aggregate
protein p44

<400> 81

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<210> 82

<211> 634

<212> DNA

<213> Homo sapiens

<220>

<223> interferon-stimulated protein 15 kDa (ISG15); ISG15
ubiquitin-like modifier; ubiquitin cross-reactive protein
(UCRP) precursor; interferon alpha-inducible protein
(IFI-15K); interferon-induced 17 kDa protein precursor

<400> 82

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<210> 83

<211> 1451

<212> DNA

<213> Homo sapiens

<220>

<223> interleukin 2 receptor gamma subunit chain (IL2RG,
hIL-2Rg) precursor; cytokine receptor common gamma
chain (gamma-C) precursor; CD132 antigen; p64

<400> 83

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<210> 84

<211> 1071

<212> DNA

<213> Homo sapiens

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<223> complement factor D (DF) precursor; adipsin; C3
convertase activator; properdin factor D

<400> 84

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<210> 85

<211> 1192

<212> DNA

<213> Homo sapiens

<220>

<223> CD9 antigen; leukocyte antigen MIC3;
motility-related protein-1 (MRP-1); tetraspanin-29
(Tspan-29)

<400> 85

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<211> 213

<212> DNA

<213> Homo sapiens

<220>
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<210> 87
<211> 2880
<212> DNA
<213> Homo sapiens

<220>
<223> defensin 5 (DEF5) preproprotein; defensin alpha 5
(DEFA5); paneth cell-specific alpha-defensin 5

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<210> 88

<211> 3060

<212> DNA

<213> Homo sapiens

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<223> defensin 6 (DEF6, HD-6) preproprotein; defensin
alpha 6 (DEFA6) precursor; paneth cell-specific
alpha-defensin 6

<400> 88

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<210> 89

<211> 1778

<212> DNA

<213> Homo sapiens

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<223> matrix metalloproteinase 12 (MMP-12)
preproprotein; macrophage metalloelastase (HME)
precursor; macrophage elastase (ME)

<400> 89

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<212> DNA

<213> Homo sapiens

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gelatinase; type IV collagenase (CLG4A)

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<210> 91

<211> 1970

<212> DNA

<213> Homo sapiens

<220>

<223> matrix metalloproteinase 1 (MMP-1) preproprotein;
type I interstitial collagenase; fibroblast
collagenase; tissue collagenase

<400> 91

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<211> 1801

<212> DNA

<213> Homo sapiens

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proteoglycanase; progelatinase; transin-1

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<212> DNA
<213> Homo sapiens

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anti-leukoprotease; whey acidic protein (WAP) four-disulfide
core domain protein 14; protease inhibitor WAP3

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<223> n = g, a, c or t

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<211> 5086

<212> DNA

<213> Homo sapiens

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chain precursor; prepro-alpha2(I) collagen
(COL1A2)

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<222> (1)..(5086)

<223> n = g, a, c or t

<400> 94

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<211> 10558

<212> DNA

<213> Homo sapiens

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<223> collagen alpha 3 type VI; type VI collagen alpha3
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(COL6A3)

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collagen alpha 1 type III; pro-alpha1(III)
collagen (COL3A1); Ehlers-Danios syndrome type IV;
fetal collagen

<220>

<221> modified_base

<222> (2509)

<223> n = g, a, c or t

<400> 97

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<210> 98

<211> 1585

<212> DNA

<213> Homo sapiens

<220>

<223> collagen alpha-2(VI) chain precursor; collagen VI
alpha-2; alpha-2 type VI collagen; type VI
collagen alpha 2 chain precursor (COL6A2)

<400> 98

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<211> 2212

<212> DNA

<213> Homo sapiens

<220>

<223> collagen alpha-2(IV) chain precursor; alpha-2 type
IV collagen; type IV collagen alpha (2) chain;
(COL4A2); procollagen; basement membrane collagen

<400> 99

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<210> 100

<211> 1830

<212> DNA

<213> Homo sapiens

<220>

<223> mucin 4; tracheo-bronchial mucin (MUC4)

<400> 100

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<210> 101

<211> 490

<212> DNA

<213> Homo sapiens

<220>
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 <213> Homo sapiens

<220>
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<400> 102
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<210> 103
 <211> 2133
 <212> DNA
 <213> Homo sapiens

<220>
 <223> osteonectin precursor; secreted protein, acidic, cysteine rich (SPARC); basement-membrane protein 40 (BM-40); extracellular matrix protein BM-40

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<210> 104

<211> 1182

<212> DNA

<213> Homo sapiens

<220>

<223> proteoglycan 1 (PRG1); hematopoietic proteoglycan core protein;
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serglycin (SRGN) precursor; proteoglycan secretory granule 1;
HL-60 cell proteoglycan peptide core; platelet proteoglycan

<400> 104

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<211> 1806

<212> DNA

<213> Homo sapiens

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<400> 105

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<212> DNA

<213> Homo sapiens

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migration-stimulating factor

<400> 106

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<212> DNA

<213> Homo sapiens

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<400> 107

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<213> Homo sapiens

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(fasciclin-I-like); periostin (PN, POSTN);
periodontal ligament-specific periostin

<400> 108

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 <213> Homo sapiens

<220>

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coagulation factor VIII (F8VWF)

<400> 109

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<211> 9551

<212> DNA

<213> Homo sapiens

<220>

<223> trichohyalin (THH, TRHY, THL, TCHH)

<400> 110

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<211> 730

<212> DNA

<213> Homo sapiens

<220>

<223> cystatin A (CSTA); cystatin AS; stefin A (STF1)

<400> 111

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<210> 112
 <211> 2597
 <212> DNA
 <213> Homo sapiens

<220>
 <223> adducin 2 (ADD2); adducin 2 (beta); beta adducin;
 beta adducin 2; rabphilin-3A-interacting protein

<400> 112
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<210> 113
 <211> 802
 <212> DNA
 <213> Homo sapiens

<220>
 <223> amelogenin (AMELY, AMGL, AMGY) precursor;
 amelogenin (Y chromosome)

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<210> 114
 <211> 419
 <212> DNA
 <213> Homo sapiens

<220>
 <223> adipose specific collagen-like 2; adipose specific
 collagen-like factor; adipose most abundant gene
 transcript 2 (APM2, apM2); adipose specific 2;
 GS2374

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<210> 116
 <211> 1404
 <212> DNA
 <213> Homo sapiens

<220>
 <223> zygin 2, zygin II; fasciculation and elongation protein
 zeta 2 (FEZ2); pre-T/NK cell associated protein (3Cl,
 HUM3CL); similar to C. elegans UNC-76

<400> 116
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<210> 117

<211> 820

<212> DNA

<213> Homo sapiens

<220>

<223> actin related protein 2/3 complex, subunit 4 (20kD) (ARPC4);
Arp2/3 protein complex 20 kD subunit (p20-Arc); EST clone
Id number 187446

<400> 117

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<210> 118

<211> 2552

<212> DNA

<213> Homo sapiens

<220>

<223> paralemmin (PALM); KIAA0270

<400> 118

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<210> 119

<211> 105

<212> DNA

<213> Homo sapiens

<220>

<223> esterase D (ESD); esterase 10; S-formylglutathione
hydrolase (FGH)

<400> 119

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<210> 120

<211> 4656

<212> DNA

<213> Homo sapiens

<220>

<223> aldolase B (ALDOB, ALDB); aldolase 2,
fructose-bisphosphatase; fructose-1,6-bisphosphate
aldolase; fructose-1,6-bisphosphate
triosephosphate lyase B

<400> 120

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<210> 121

<211> 1062

<212> DNA

<213> Homo sapiens

<220>

<223> glucagon (GCG) preproprotein; enteroglucagon;
glicentin-related polypeptide (GRPP);
oxyntomodulin (OXY, OXM)

<400> 121

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<211> 2578

<212> DNA

<213> Homo sapiens

<220>

<223> monocarboxylate transporter 1 (MCT1); solute
carrier, family 16, member 1 (SLC16A1)

<400> 122

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<211> 4122

<212> DNA

<213> Homo sapiens

<220>

<223> 2-oxoglutarate dehydrogenase (OGDH) precursor; 2-oxoglutarate
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alpha-ketoglutarate dehydrogenase; oxoglutarate
(alpha-ketoglutarate) dehydrogenase (lipoamide)

<400> 123

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<210> 124

<211> 1450

<212> DNA

<213> Homo sapiens

<220>

<223> alcohol dehydrogenase 1A (ADH1A, ADH1); class I
alcohol dehydrogenase alpha subunit (aADH);
aldehyde reductase

<400> 124

gatgcacttg	agcaggggaag	aaatccacaa	ggactcacca	gtctcctggt	ctgcagagaa	60
gacagaatca	acatgagcac	agcaggaaaa	gtaatcaa	gcaaagcagc	tgtgctatgg	120
gagttaaaga	aacccttttc	cattgaggag	gtggaggttg	cacctcctaa	ggcccatgaa	180
gttcgtatta	agatggtggc	tgtaggaatc	tgtggcacag	atgaccacgt	ggttagtggt	240
accatggtga	ccccacttcc	tgtgatttta	ggccatgagg	cagccggcat	cgtggagagt	300
gttgaggaga	gggtgactac	agtcaaacca	ggtgataaag	tcacccact	cgtattcct	360
cagtgtggaa	aatgcagaat	ttgtaaaaac	ccggagagca	actactgctt	gaaaaacgat	420
gtaagcaatc	ctcaggggac	cctgcaggat	ggcaccagca	ggttcacctg	caggaggaag	480
cccatccacc	acttccttgg	catcagcacc	ttctcacagt	acacagtggg	ggatgaaaat	540
gcagtagcca	aaattgatgc	agcctcgcc	ctagagaaaag	tctgtctcat	tggtgtgga	600
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cctgattccc	aaaacctctc	aatgaaccct	atgctgctac	tgactggacg	tacctggaag	1020
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gacaatacag	atgttttccc	ttgtggcagt	cttcagcctc	ctctacccta	catgatctgg	1260
agcaacagct	gggaaatatc	attaattctg	ctcatcacag	attttatcaa	taaattacat	1320
ttgggggctt	tccaaagaaa	tggaaattga	tgtaaaaatta	tttttcaagc	aaatgtttta	1380
aatccaaatg	agaactaaat	aaagtgttga	acatcagctg	gggaattgaa	gccaaataaac	1440
cttccttctt						1450

<210> 125

<211> 1523

<212> DNA

<213> Homo sapiens

<220>

<223> carbonic anhydrase II (CA2, CA II); carbonic
anhydrase B; carbonic dehydratase; carbonate
dehydratase II

<400> 125

gtgccgattc	ctgccctgcc	ccgaccgcc	gcgcgaccat	gtcccatcac	tgggggtacg	60
gcaaacacaa	cggacctgag	cactggcata	aggacttccc	cattgccaaag	ggagagcgcc	120
agtcccctgt	tgacatcgac	actcatacag	ccaagtatga	cccttccctg	aagcccctgt	180

ctgtttccta	tgatcaagca	acttccctga	ggatcctcaa	caatgggtcat	gctttcaacg	240
tggagtttga	tgactctcag	gacaaagcag	tgctcaaggg	aggacccctg	gatggcactt	300
acagattgat	tcagtttcac	tttcaactgg	gttcaactga	tggacaaggt	tcagagcata	360
ctgtgggataa	aaagaaatat	gctgcagaac	tctacttggg	tcactggaac	accaaatatg	420
gggatttttg	gaaagctgtg	cagcaacctg	atggactggc	cgttctaggt	atttttttga	480
aggttggcag	cgctaaaccg	ggccttcaga	aagttgttga	tgtgctggat	tccattaaaa	540
caaagggcaa	gagtgtgtgac	ttactaact	tcgatcctcg	tggcctcctt	cctgaatccc	600
tggattactg	gacctaccca	ggctcactga	ccacccctcc	tcttctggaa	tgtgtgacct	660
ggattgtgct	caaggaaccc	atcagcgtca	gcagcgagca	ggtgttgaaa	ttccgtaaac	720
ttaacttcaa	tggggagggg	gaacccgaag	aactgatggg	ggacaactgg	cgcccagctc	780
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tggaccctgg	ttgctttgtg	tctagttttc	tagacccttc	atctcttact	tgatagactt	960
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ggtgctttgt	ttatggtagt	agtttttctg	taacacagaa	tataggataa	gaaataagaa	1080
taaagtacct	tgactttgtt	cacagcatgt	aggtgatgag	cactcacaat	tgttgactaa	1140
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aaattgagct	agttaaggca	aatcaggtaa	aatagtcatg	attctatgta	atgtaaacca	1260
gaaaaaataa	atgttcatga	tttcaagatg	ttatattaaa	gaaaaacttt	aaaaattatt	1320
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ttacagagat	ataaatgaag	tattatctgt	aaaaattgtt	ataattagag	ttgtgatata	1440
gagtatatatt	ccattcagac	aatatatcat	aacttaataa	atattgtatt	ttagatatat	1500
tctctaataa	aattcagaat	tct				1523

<210> 126

<211> 655

<212> DNA

<213> Homo sapiens

<220>

<223> carbonic anhydrase IV (CA4, CA-IV) precursor;
carbonic dehydratase; carbonate dehydratase IV;
retinitis pigmentosa 17 (autosomal dominant)

<400> 126

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aggacaggat	gaggtgcctg	cctgagggtca	cacggcaggg	agtgcagctc	cccctgcccc	180
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cacggtgata	aagtccgggg	ccccgggtcg	gccgctgccc	tgggccctgc	ctgccctgct	360
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cagcctctct	gttgccctcag	ctctccaagt	cctcaggcttc	cggtccttag	ccttcccagg	480
tgggacttta	ggcatgatta	aaatatggac	atatttttgg	agaaaccttt	ctcaagtgtg	540
tttttagcct	tccacaacta	ccccaccctg	tccccctcca	cccacccctg	ttcctcctgt	600
tccagggcgg	gggctttaag	gccaggagat	ttctccaagc	aggtaccacc	aggtg	655

<210> 127

<211> 2657

<212> DNA

<213> Homo sapiens

<220>

<223> phosphoenolpyruvate carboxykinase 1, soluble
(PCK1, PEPCK)

<400> 127

tgggaacaca	aacttgctgg	cggaagagc	ccggaagaa	acctgtggat	ctcccttcga	60
gatcatccaa	agagaagaaa	ggtgacctca	cattcgtgcc	ccttagcagc	actctgcaga	120
aatgcctcct	cagctgcaaa	acggcctgaa	cctctcggcc	aaagttgtcc	agggaagcct	180
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tgatcacatc	cacatctgtg	acggctctga	ggaggagaat	gggcggttc	tgggccagat	300
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tgaccccagg	gatgtggcca	ggatcgaaag	caagacggtt	atcgtcaccc	aagagcaaa	420
agacacagtg	cccatcccca	aaacaggcct	cagccagctc	ggtcgctgga	tgtcagagga	480
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cttaccttta	cataattgca	atatttcccc	cttactactt	cttggaaaaa	aattagaaaa	2640
tgaagtttat	agaaaaag					2657

<210> 128

<211> 1248

<212> DNA

<213> Homo sapiens

<220>

<223> syntaxin 4A (STX4A, STX4) precursor; syntaxin
(placental)

<400> 128

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gccgccatgc	gcgacaggac	ccacgagctg	agacaggggg	atgacagctc	ggacgaagag	120
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aacacaagaa	tgagaaaaac	ccagcatggg	gtcctgtccc	agcaattcgt	ggagctcatc	480
aacaagtgca	attcaatgca	gtccgaatac	cgggagaaga	acgtggagcg	gattcggagg	540

cagctgaaga	tcaccaatgc	tggcatgggt	tctgatgagg	agttggatca	gatgctggac	600
agtgggcaaa	gcgaggtggt	tgtgtccaat	atccttaagg	acacgcaggt	gactcgacag	660
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aggcctcaat	gcctggggga	ggcctgcact	gtcctgattg	gccgggacac	acggttttgt	1200
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<210> 129

<211> 2010

<212> DNA

<213> Homo sapiens

<220>

<223> chaperonin subunit 6A (CCT6A); chaperonin containing T-complex protein 1 (TCP1), subunit 6A; chaperonin containing TCP1, zeta 1 (CCT-zeta-1); histidine transport regulator 3 (HTR3); acute morphine dependence related protein 2; TRiC chaperonin subunit

<400> 129

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<210> 130
 <211> 2422
 <212> DNA
 <213> Homo sapiens

<220>
 <223> UDP-glycosyltransferase 1 (UGT1);
 UDP-glycosyltransferase 1 family, polypeptide A6
 (UGT1A6); phenol UDP-glucuronosyltransferase
 (UDPGT); phenol transferase UGT1F; GNT1

<400> 130
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 tctgcagggg ttttcttctt agctcttttg ggcattggtg taggtgacaa gctgctggtg 180
 gtccctcagg acggaagcca ctggcttagt atgaaggata tagttgaggt tctcagtac 240
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 <213> Homo sapiens

<220>

<223> sulfotransferase family, cytosolic, 1A, phenol-preferring,
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<212> DNA

<213> Homo sapiens

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glucuronosohydrolase; glucuronohydrolase; beta-G1

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<210> 133

<211> 2090

<212> DNA

<213> Homo sapiens

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<210> 134
 <211> 1137
 <212> DNA
 <213> Homo sapiens

<220>
 <223> thiosulfate sulfurtransferase (TST);
 thiosulfate:cyanide sulfurtransferase; thiosulfate
 cyanide transsulfurase; thiosulfate
 thiotransferase; rhodanese

<400> 134
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<210> 135
 <211> 3494
 <212> DNA
 <213> Homo sapiens

<220>
 <223> aminopeptidase N (ANPEP, PEPN, APN) precursor; membrane alanine
 aminopeptidase precursor; alanyl (membrane) aminopeptidase;
 microsomal aminopeptidase; aminopeptidase M; CD13 antigen;
 p150; IGF1R

<400> 135
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<210> 136
 <211> 1815
 <212> DNA
 <213> Homo sapiens

<220>
 <223> protective protein for beta-galactosidase (PPGB,
 PPR) precursor; beta-galactosidase 2;
 carboxypeptidase C precursor; lysosomal protective
 protein; cathepsin A precursor

<400> 136
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<210> 137

<211> 584

<212> DNA

<213> Homo sapiens

<220>

<223> fatty acid binding protein 6 (FABP6); gastropin
(GT) isoform 1; ileal lipid-binding protein (ILBP,
Illbp); ileal bile acid binding protein (I-BABP);
intestinal 15 kDa protein (I-15P)

<400> 137

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tcacggaggt	gcagcaggat	gggcaggact	tcacttggtc	ccagcactac	tccggggggcc	300
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<210> 138

<211> 634

<212> DNA

<213> Homo sapiens

<220>

<223> fatty acid binding protein 4, adipocyte (FABP4);
adipocyte lipid-binding protein (ALBP); aP2; p15

<400> 138
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gttacgttggt ttaaataact ttttttagat ttag 634

<210> 139

<211> 489

<212> DNA

<213> Homo sapiens

<220>

<223> fatty acid binding protein 1, liver (FABP1, FABP2,
L-FABP); fatty acid binding protein, hepatic; Z
protein; sterol carrier protein

<400> 139
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<210> 140

<211> 882

<212> DNA

<213> Homo sapiens

<220>

<223> delta3, delta2-CoA-isomerase (DCI);
delta(3)-delta(2)-enoyl-CoA isomerase;
dodecenoyl-CoA delta-isomerase precursor,
mitochondrial; 3,2-trans-enoyl-CoA isomerase

<400> 140
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gtgtccagga ggtcttaaac aaggtatttt tcaacttaaa aa 882

<210> 141
 <211> 1584
 <212> DNA
 <213> Homo sapiens

<220>
 <223> acetyl-CoA acyltransferase 2 (ACAA2);
 mitochondrial 3-oxoacyl-CoA thiolase;
 3-ketoacyl-CoA thiolase, mitochondrial;
 beta-ketothiolase; T1

<400> 141
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 <212> DNA
 <213> Homo sapiens

<220>
 <223> 3-beta hydroxysteroid dehydrogenase type II (HSD3B2);
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 steroid dehydrogenase; steroid delta-isomerase 2; 3beta-hydroxy
 delta5-steroid dehydrogenase multifunctional protein II

<400> 142
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<211> 409

<212> DNA

<213> Homo sapiens

<220>

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precursor; acetyl-CoA acetyltransferase 1 (ACAT1)
precursor; T2

<400> 143

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<210> 144

<211> 6372

<212> DNA

<213> Homo sapiens

<220>

<223> acyl-CoA dehydrogenase, C-2 to C3 short chain
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dehydrogenase (SCAD) precursor

<400> 144

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<210> 145

<211> 1344

<212> DNA

<213> Homo sapiens

<220>

<223> hydroxysteroid (17-beta) dehydrogenase 2 (HSD17B2); 17 beta hydroxysteroid dehydrogenase type 2 (17b-HSD); 17beta-estradiol dehydrogenase; estradiol 17beta dehydrogenase type 2; 20alpha-hydroxysteroid dehydrogenase

<400> 145

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<210> 146

<211> 1897

<212> DNA

<213> Homo sapiens

<220>

<223> 11-beta-hydroxysteroid dehydrogenase type II
(HSD11B2, 11-beta-HSD2, 11-DH2); corticosteroid
11-beta-dehydrogenase, isozyme 2; NAD-dependent
11-beta-hydroxysteroid dehydrogenase

<400> 146

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attagggtccc	caactacaca	cccccaagcc	acagggaagc	atgtactgta	cttcccaatt	1860
gccacattht	aaataaagac	aaatthttat	ttcttct			1897

<210> 147
 <211> 511
 <212> DNA
 <213> Homo sapiens

<220>
 <223> MAT8 protein; FXYP domain containing ion transport
 regulator 3 (FXYP3) precursor; chloride
 conductance inducer Mat-8; phospholemman-like
 protein

<220>
 <221> modified_base
 <222> (511)
 <223> n = g, a, c or t

<400> 147
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<210> 148
 <211> 571
 <212> DNA
 <213> Homo sapiens

<220>
 <223> guanylate cyclase activator 2A (GUCA2A); guanylate
 cyclase activating protein 1 (Gap-I); guanylin 2,
 intestinal, heat-stable; guanylin precursor;
 proguanylin

<400> 148
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<210> 149
 <211> 755
 <212> DNA
 <213> Homo sapiens

<220>
 <223> 6-pyruvoyl-tetrahydropterin synthase (PTPS, PTS);
 PTP synthase

<400> 149
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<210> 150

<211> 3727

<212> DNA

<213> Homo sapiens

<220>

<223> KIAA0035; similar to rat nucleolar phosphoprotein of 140 kD (RATNOP140B), nucleolar and coiled body phosphoprotein 1 (NOLC1), nucleolar phosphoprotein p130; trans-regulated protein 13; HCV NS5A

<400> 150

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<213> Homo sapiens

<220>

<223> KIAA0367; BNIP2 motif containing molecule at
carboxyl terminal region (BMCC1)

<400> 151

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<211> 1144

<212> DNA

<213> Homo sapiens

<220>

<223> endogenous retrovirus envelope region; pseudo-env;
PL1

<400> 152

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<211> 494

<212> DNA

<213> Homo sapiens

<220>

<223> cytochrome c oxidase subunit Vb, mitochondrial
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<400> 153

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<212> DNA
 <213> Homo sapiens

<220>

<223> pancreatic ribonuclease A precursor; ribonuclease,
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<400> 154

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<210> 155
 <211> 2000

<212> DNA
 <213> Homo sapiens

<220>

<223> K12 protein precursor; secreted and transmembrane
 protein 1 (SECTM1) precursor

<400> 155

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<210> 156

<211> 121

<212> DNA

<213> Homo sapiens

<220>

<223> CpG-enriched DNA, clone E18

<400> 156

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a						121

<210> 157

<211> 1098

<212> DNA

<213> Homo sapiens

<220>

<223> caspase and RIP adaptor with death domain (CRADD);
 CASP2 and RIPK1 domain containing adaptor with death domain
 (CRADD); death domain containing protein CRADD

<400> 157

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ggcaagggaa	gaggccatga	ccgacctgcc	tgcaggtgac	agattgactg	ggatccccctc	360
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<210> 158

<211> 2920

<212> DNA

<213> Homo sapiens

<220>

<223> meprin 1A, meprin A alpha; N-benzoyl-L-tyrosyl-p-amino-benzoic acid hydrolase alpha subunit (PPH alpha); PABA peptide hydrolase; astacin metalloendopeptidase

<400> 158

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<210> 159

<211> 1615

<212> DNA

<213> Homo sapiens

<220>

<223> N-acetyl-transferase 1 (NAT1); arylamine

N-acetyltransferase (AAC1)

<400> 159

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<210> 160

<211> 2966

<212> DNA

<213> Homo sapiens

<220>

<223> protein phosphatase 2 catalytic subunit, alpha isoform

(PPP2CA); protein phosphatase 2A catalytic subunit-alpha

<400> 160

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<210> 161

<211> 1119

<212> DNA

<213> Homo sapiens

<220>

<223> tetraspanin-3 (Tspan3); transmembrane 4 superfamily
tetraspan TM4SF; globin regulator, clone 52, globin promoter
trans-activator

<400> 161

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<210> 162

<211> 852

<212> DNA

<213> Homo sapiens

<220>

<223> platelet activating factor (PAF) acetylhydrolase isoform 1b,
gamma subunit (PAFAH1B3)

<400> 162

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<210> 163

<211> 874

<212> DNA

<213> Homo sapiens

<220>

<223> tetranectin A (TNA); plasminogen binding protein;
plasminogen-kringle 4 binding protein

<400> 163

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874

<210> 164

<211> 871

<212> DNA

<213> Homo sapiens

<220>

<223> preprokallikrein; kallikrein 1 (KLK1) clone phKK25;
kallikrein, renal/pancreas/salivary (KLKR)

<400> 164

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871

<210> 165

<211> 1196

<212> DNA

<213> Homo sapiens

<220>

<223> enoyl CoA hydratase 1, peroxisomal (ECH1); peroxisomal
enoyl-coenzyme A hydratase-like protein; dienoyl CoA
isomerase; delta3,5-delta2,4-dienoyl-CoA isomerase; HPXEL

<400> 165

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<210> 166

<211> 2058

<212> DNA

<213> Homo sapiens

<220>

<223> 3-hydroxy-3-methylglutaryl coenzyme A synthase 2;
mitochondrial HMG CoA synthase 2 (HMGCS2); hydroxymethyl-CoA
synthase; hydroxymethylglutaryl-CoA synthase

<400> 166

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2058

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<210> 167

<211> 3976

<212> DNA

<213> Homo sapiens

<220>

<223> SREBP cleavage-activating protein (SCAP); KIAA0199

<400> 167

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<210> 168

<211> 3600

<212> DNA

<213> Homo sapiens

<220>

<223> guanylate cyclase activator 2B (GCAP-II, GUCA2B);
guanylate cyclase C activating peptide II; uroguanylin

<400> 168

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<210> 169

<211> 4622

<212> DNA

<213> Homo sapiens

<220>

<223> mitochondrial cytochrome c-1; cytochrome c1 subunit of
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<400> 169

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<211> 423

<212> DNA

<213> Homo sapiens

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<223> COX17 homolog; cytochrome c oxidase assembly protein
(yeast) homolog; mitochondrial copper recruitment homolog;
copper metallochaperone homolog

<400> 170

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<212> DNA
<213> Homo sapiens

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      (ESRL1); ESRR1, ESR; NR3B1

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<210> 172
<211> 5749
<212> DNA
<213> Homo sapiens

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<220>

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receptor; nuclear receptor subfamily 3, group C, member 2
(NR3C2)

<400> 172

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<210> 173

<211> 769

<212> DNA

<213> Homo sapiens

<220>

<223> plasma membrane Ca²⁺ pump isoform 1a (alternatively spliced) (hPMCA1a, PMCA1), ATPase, Ca⁺⁺ transporting, plasma membrane 1 (ATP2B1)

<400> 173

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<210> 174

<211> 2823

<212> DNA

<213> Homo sapiens

<220>

<223> ATPase, H⁺ transporting, lysosomal (vacuolar proton pump)
subunit 1 (ATP6S1); Xq terminal portion ORF

<400> 174

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<210> 175

<211> 3220

<212> DNA

<213> Homo sapiens

<220>

<223> solute carrier family 20 (phosphate transporter) member 1
(SLC20A1, PIT1, PiT-1); gibbon ape leukemia virus receptor 1
(GLVR1); phosphate transporter/retroviral receptor

<400> 175

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<210> 176

<211> 2832

<212> DNA

<213> Homo sapiens

<220>

<223> solute carrier family 26 (sulfate transporter), member 2
(SLC26A2); diastrophic dysplasia (DTD), diastrophic dysplasia
sulfur transporter (DTDST); sulfate anion transporter 1;
D5S1708

<400> 176

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<210> 177

<211> 4646

<212> DNA

<213> Homo sapiens

<220>

<223> ATP-binding cassette subfamily B (MDR/TAP), member 1 (ABCB1, ABC20); P-glycoprotein (PGY1, P-GP, GP170); multidrug resistance (MDR1)

<400> 177

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<211> 2904

<212> DNA

<213> Homo sapiens

<220>

<223> butyrophilin, subfamily 2, member A1, transcript variant 1
(BTN2A1, BTF1, BT2.1)

<400> 178

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<211> 498

<212> DNA

<213> Homo sapiens

<220>

<223> glycophorin E (GYPE)

<400> 179

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<213> Homo sapiens

<220>

<223> KIAA0110

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